

(*Sula fiber*); two males from Abd-el-Kuri, near Socotra, 23. ii. 1899 (*W. R. Ogilvie Grant*), "from *Sula sula*"; two males from Christmas I. (*H.M.S. 'Flying-Fish'*); one male and two females from Adele I., N.W. Australia, 2. v. 1891 (*J. J. Walker, R.N.*).

For remarks on the association of this species with the frigate-bird (*Fregata aquila*, L.) and its wide distribution, see Speiser, *Zeitschr. f. syst. Hym. u. Dipt.*, ii. Jahrg. Heft 3 (1 May, 1902), pp. 146-147. It is stated by Speiser (*loc. cit.* p. 147) that the fly met with by Darwin on St. Paul's I., Atlantic Ocean*, evidently belongs to this species. The two specimens obtained by Darwin on this remote islet are in the British Museum collection, and were doubtfully referred by Walker (*List Dipt.* iv. p. 1143) to *Ornithomyia (Hippobosca) nigra*, Perty (*Del. Anim. Art.* p. 190, pl. 37. fig. 15), which is in reality a *Pseudolfersia*. It seems to me that Walker's provisional determination is correct, and that Darwin's specimens really belong to *Pseudolfersia nigra*, Perty, which is very possibly merely a synonym of *Pseudolfersia spinifera*, Leach. Nevertheless, I prefer to the present to keep the two supposed species distinct, especially since Darwin's specimens, in addition to being smaller than the average size of *Ps. spinifera*, are also in bad condition.

XXIII.—*On some new Genera and Species of Parasitic Hymenoptera from the Khasia Hills, Assam.* By P. CAMERON.

JOPPINI.

ACHAIUS, gen. nov.

Apex of abdomen bluntly pointed; the keel on segments 1-4. Mandibles unequally toothed, the upper much larger than the lower. Clypeus not distinctly separated from the face, its apex transverse. Labrum projecting. Scutellum convex. Median segment completely areolated, its apex with an abrupt oblique slope; the areola distant from the base, large, longer than broad, extending to the top of the apical slope; it is bluntly rounded behind, its apex slightly rounded backwards. The sides of the segment bear stout, longer than broad, teeth; the spiracles linear. Legs longish,

* Cf. Darwin's 'Journal' (ed. 1839), pp. 7-10: the geographical position of St. Paul's I., on which the booby and the noddy were the only birds found, is 0° 58' N. lat., 29° 15' W. long.

the tarsi spinose; the apex of the hinder femora reaches to the middle of the third segment. The transverse basal nervure is interstitial; the stump of a nervure on the discocubital is longer than usual. The base of the median segment is broadly obliquely depressed in the middle; it is smooth, flat, and shining, and is bordered on the top by a distinct keel.

There are two lateral areæ on the base of the median segment; the spiracular area is bounded by a not very distinct keel. The second abdominal segment is striated.

Belongs to the Joppini, and comes near to *Trogus*. I unfortunately only know the male.

Achais flavo-balteatus, sp. n.

Black; the greater part of the head, the edge of the pronotum, a mark in the middle of the mesonotum, the scutellums, tegulæ, the areola and posterior median areæ on the metanotum, the lower part of the propleuræ (broadly behind, narrowly in front), a large mark (irregularly narrowed behind) on the lower half of the mesopleuræ at the base, an oblique mark under the hind wings, and a large mark on the base of the metapleuræ (extending beyond the middle) lemon-yellow. Legs yellow, the lower part and sides of the hinder coxæ, the hinder trochanters, the base and apex of femora, and apex of tibiæ, black. Abdomen black; the apices of the first and second segments, two large marks on the apex of the third, two smaller ones on the apex of the fourth, the ventral keel, and the apices of the second and third ventral segments, lemon-yellow. Wings violaceous hyaline, the stigma and nervures black. ♂.

Length 17 mm.

Hab. Khasia. Coll. Rothney.

Antennæ black; the scape yellow below; the flagellum yellowish beneath and for the greater part above to near the middle. Front and vertex broadly in the middle, the occiput, and the upper half of the outer orbits, black. Face and clypeus closely and rather strongly punctured all over and covered with short white pubescence; the ocellar region and the upper part of the front in the middle are stoutly obliquely striated. Mandibles black, the base obscure yellow. Palpi lemon-yellow. Mesonotum closely punctured all over. Pleuræ closely punctured, the apex of the propleuræ striated; the mesopleuræ striated in the middle and stoutly crenulated behind; the apex of the metapleuræ stoutly rugose; the lower part smooth and projecting into a keel. Petiole above

closely transversely striated, the postpetiole with the sides obscurely punctured. Gastrocœli and base of second segment longitudinally striated.

Amblyjoppa rufocincta, sp. n.

Black; the scape of the antennæ beneath and the ninth to fifteenth joints white; the face, clypeus, labrum, a triangular mark on the base of the mandibles, the inner and outer orbits below to the mandibles, a line on the pronotum, a transverse one on its base, two short lines on the apex of the mesonotum (sharply narrowed at the base), the scutellums, two marks (narrowed gradually towards the apex and occupying the apical two thirds of the areæ on the metanotum), the tubercles, the greater part of the lower half of the mesopleuræ (the mark widely but not deeply incised at the tip), and two large marks on the apex of the petiole, yellow. Wings fusco-violaceous, paler on the basal half. Legs black, the hinder red; the four front coxæ and trochanters yellow. The second and third segments of the abdomen red. ♀.

Length 25 mm.

Hab. Khasia. Coll. Rothney.

Face strongly and closely punctured; the clypeus above is more sparsely and less strongly punctured; the vertex sparsely punctured. On the face is a broad black mark, narrowed above (where it is divided into three parts, a large central reaching to the top and a smaller lateral); below it extends to the clypeal foveæ. Mesonotum closely, almost rugosely punctured, the scutellum less closely punctured. Median segment rugose; areola horseshoe-shaped, irregularly closely reticulated (longitudinally in the middle, obliquely laterally); the posterior median area coarsely, irregularly, transversely striated, the striæ stout and waved; the apical half of the spiracular area is closely, stoutly, obliquely striated. Pleuræ closely punctured, the propleuræ stoutly striated at the apex and obliquely down the centre. Petiole depressed in the middle above and transversely striated; the postpetiole closely longitudinally striated in the middle, the sides sparsely, the apex in the middle rugosely punctured; the second, third, and fourth segments are closely punctured, the middle of the second longitudinally striated; the basal slope of the gastrocœli stoutly striated.

Agrees closely with *tibialis*; may be separated from it by the areola being clearly defined, by the apex of the petiole not being red, by the hinder tibiæ being red (not white), and by the scutellum only being black on the apex.

Amblyjoppa flavo-ornata, sp. n.

Black ; the face and clypeus (except for a triangular black mark on the former and an hourglass-shaped mark on the latter), the inner orbits to the top of the eyes, the outer narrowly below, the malar space, a triangular mark on the base of the mandibles, a broad band on the pronotum, two lines on the apex of the mesonotum, the scutellum, the apex of the prosternum, the tubercles, lower half of the mesopleuræ, and an oblique mark on the apical half of the metapleuræ, yellow. The basal three segments of the abdomen ferruginous. Legs ferruginous, the four front coxæ and trochanters, the upper part of the hinder coxæ at the base and obliquely down the middle, yellow. Fore wings uniformly fuscous violaceous, the hinder paler in tint. The tenth to twentieth joints of the antennæ white. ♀.

Length 21-22 mm.

Hab. Khasia. Coll. Rothney.

Face and centre of clypeus strongly but not closely punctured and sparsely covered with short white pubescence. Mesonotum closely but not strongly punctured. Scutellum sparsely punctured. Postscutellum rufous, minutely punctured between the foveæ. Areola open at the apex, which is irregularly reticulated, its inner side hollowed ; the base of the posterior median area is irregularly reticulated, the apex irregularly transversely striated. Pleuræ for the most part closely punctured. The petiole is sharply and stoutly keeled down the sides ; the postpetiole in the middle finely longitudinally striated, its apex closely punctured. The second and third segments are closely punctured, at the base closely, longitudinally striated in the middle. Gastrocœli large, deep, the base with five stout striæ.

The male is similar ; the yellow marks on the pleuræ are greatly reduced ; the hind coxæ have no yellow ; the flagellum in the middle has a brownish band.

Amblyjoppa violaceipennis, sp. n.

Black ; the head rufous, tinged at the sides with yellow ; a pale rufous line on the pronotum, two obscure marks on the apex of the mesonotum and two similar marks on the apex of the mesosternum, the greater part of the abdomen, and the scape of the antennæ, rufous. Legs rufous, the fore coxæ above in front, the middle entirely above, the hinder trochanters, the apex of the hinder tibiæ, and the hinder

tarsi, black; the posterior tarsi infuscated. Wings uniformly dark fuscous violaceous. ♂.

Length 22 mm.

Hab. Khasia. Coll. Rothney.

Face and clypeus strongly and closely punctured, sparsely pilose. Clypeal fovea large and deep. Labrum closely punctured. Vertex strongly punctured, the centre across the ocelli to the eyes, the lower part of the front and the upper part of the occiput, and the malar space, black. Mesonotum closely and strongly punctured; its outer edge has a bordering furrow; the scutellum not so closely punctured, especially at the apex. Median segment coarsely transversely striated. Areola flat, smooth and shining; the posterior median area coarsely transversely striated; the striæ in the centre curve downwards and are more irregular than below; the supraexternal areæ are sparsely punctured, smooth on the inner side, the lower closely rugosely reticulated, the spiracular closely punctured in the middle, the sides stoutly striated. Pleuræ closely punctured, the metapleuræ more closely than the mesopleuræ; the lower part of the propleuræ closely obliquely striated. Postpetiole closely and strongly punctured; the second, third, and fourth segments are closely punctured. Gastrocœli large, deep, and smooth, the part between them longitudinally striated. The second segment is entirely black above, the second and third narrowly at the base in the middle.

Amblyjoppa varipes, sp. n.

Black; the head (the face and clypeus lighter in tint), the mandibles (except at the apex), the mesonotum (except for a black line opposite the tegulæ), the upper half of the propleuræ, and a narrow line on their lower edge, rufous. The front legs entirely fulvous, slightly yellowish in front, the middle black, their coxæ obscure testaceous below; the femora fulvous, lined with black below and behind; the tibiæ dark fulvous in front; the hinder legs entirely black. Wings uniformly dark fuscous, with a violaceous tint; the stigma and nervures black; the tegulæ rufous, the tubercles of a darker rufous colour. ♂.

Length 22 mm.

Hab. Khasia. Coll. Rothney.

Antennæ not much longer than the abdomen, black, the scape rufous beneath; the apical joints serrate. Face and clypeus strongly but not very closely punctured, the clypeus thickly covered with long pale fulvous hair. Mandibles

thickly covered with pale fuscous hair. Mesonotum closely and uniformly punctured and thickly covered with short pubescence. Scutellum closely punctured, its apex broadly projecting and slightly incised in the middle. Pleuræ closely punctured; the hollowed centre of the propleuræ bears six perpendicular distinctly separated keels. Median segment rugosely punctured; the areola is much wider than long, is rounded behind, and almost transverse in front; its base and apex aciculated, the centre irregularly rugose, and with three irregular hollows; the posterior median area coarsely transversely striated; the spiracular rugose, its apical half with some stout oblique keels. The curved keel below the middle of the metapleuræ is stout and is furrowed below, the furrow being indistinctly crenulated. The postpetiole is strongly punctured, the second, third, and fourth segments are strongly and closely punctured. Gastrocæli deep, the middle behind with a broad striated band.

Amblyjoppa tibialis, sp. n.

Black; the ninth to thirteenth joints of the antennæ white; the inner orbits broadly below, more narrowly above, the outer from shortly above the middle of the eyes, narrow above, becoming gradually wider below, the labrum, the sides of the clypeus, an oblique yellow mark on the upperside of the mandibles at the base, the palpi, a line on the pronotum, roundly and broadly incised on the lower side, two small lines behind the middle of the mesonotum, the scutellar keels broadly, the apex of the scutellum (the mark with a triangular incision at the base), the postscutellum, two marks on the apex of the metanotum covering the spines, the tubercles, an irregular rounded mark on the lower side of the mesopleuræ (extending on to the propleuræ), pale yellow. Mesonotum closely and distinctly punctured; the scutellum not quite so closely punctured, its basal half with short, the apical with longer, pale hair. Areola irregularly reticulated, surrounded by a flat, broad, smooth keel, which is widened at the base; the posterior median area transversely irregularly striated, much more coarsely at the base than at the apex; the outer areæ have a few stout curved keels. Pro- and mesopleuræ closely punctured, the former stoutly obliquely striated in the middle; the metapleuræ closely rugose, the punctures running into reticulations; the part above the spiracles coarsely, obliquely, rugosely reticulated. The abdominal petiole and the second and third segments entirely rufous, the petiole for the greater part strongly punctured,

the middle of the postpetiole longitudinally striated; the second, third, and fourth segments closely punctured, the base of the second stoutly longitudinally striated in the middle. Gastrocœli large, deep, smooth. The apical three segments have a distinct bluish-violaceous tinge. The four front legs black; the coxæ, trochanters, the greater part of the fore, the apical half of the middle femora in front, and the tibiæ in front, yellowish white; the hinder legs black; the trochanters, and the basal three fourths of the tibiæ, yellowish white; the femora rufous, the base slightly, the apex more broadly black; all the legs are thickly covered with white hair; the calcaria yellowish white. Wings fuscous violaceous, paler at the base. ♀.

Length 14 mm.

Hab. Khasia. Coll. Rothney.

Hadrojoppa forticornis, sp. n.

Black; the upper inner orbits to the end of the eyes, the lower half of the outer (narrowly above, broadly below), the face (except for an interrupted black line in the middle), the clypeus (except for a somewhat triangular black mark in the centre), a line on the pronotum, two short lines in the middle of the mesonotum, the scutellums, two irregular marks on the median segment on the sides in the centre, the tubercles, the lower half of the mesopleuræ, an irregular mark on the metapleuræ, and the apex of the petiole, yellow. Legs pallid yellow, the femora (except for a line in front of the middle), the hinder at the base and more broadly at the apex, the front tibiæ behind, the middle at the apex behind, the apex of the hinder tibiæ, and the apices of the tarsal joints, black. Wings yellowish hyaline, their apex broadly fuscous violaceous. Antennæ with the ninth to eighteenth joints white, the scape thickly covered with short fuscous hair, closely punctured, and with a narrow yellowish line in the middle beneath. ♀.

Length 27 mm.

Hab. Darjeeling and Khasia. Coll. Rothney.

Face closely, the clypeus more sparsely punctured and thickly covered with white hair; the lower part of the ocellar region and the upper part of the front strongly and distinctly punctured; the front raised, furrowed down the centre, the sides of the raised part transversely punctured, but not very closely or distinctly. Mandibles black, yellow at the base; the palpi yellow. Mesonotum closely, uniformly, and rather strongly punctured; the scutellum is less closely punctured.